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AGO ltr 29 Apr 1980

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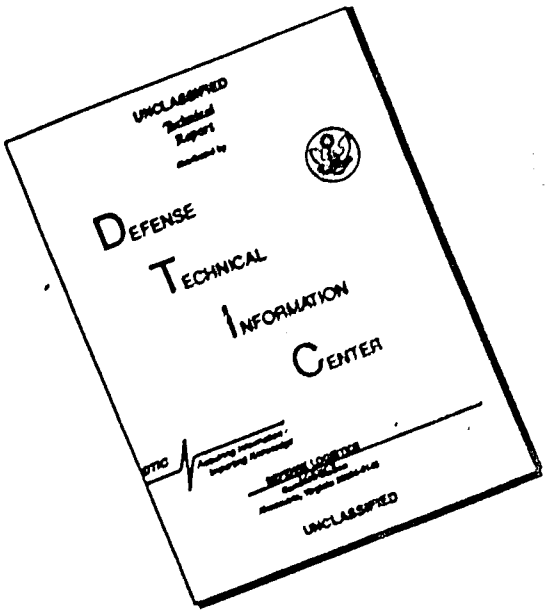

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DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

IN REPLY REFER TO
AGDA (M) (3 Oct 69) FOR OT UT 693278 7 October 1969

SUBJECT: Operational Report - Lessons Learned, Headquarters, 31st Engineer Battalion, Period Ending 31 July 1969

SEE DISTRIBUTION

1. Subject report is forwarded for review and evaluation in accordance with paragraph 5b, AR 525-15. Evaluations and corrective actions should be reported to ACSFOR OT UT, Operational Reports Branch, within 90 days of receipt of covering letter.

2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

BY ORDER OF THE SECRETARY OF THE ARMY:

ROBERT E. LYNCH
Colonel, AGC
Acting The Adjutant General

1 Incl
as

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UNCLASSIFIED REPORT
DISTRIBUTION NO FOREIGN WITHOUT APPROVAL OF ASSISTANT CHIEF OF STAFF FOR FORCE DEVELOPMENT (ARMY) ATTN FOR OT UT. WASHINGTON, D.C. 20310

DEPARTMENT OF THE ARMY
HEADQUARTERS, 31ST ENGINEER BATTALION (C)(A)
APO San Francisco 96490

EGEA-3 8 August 1969

SUBJECT: Operational Report Lessons Learned of HQ, 31st Engineer Battalion (C)(A) for the period ending 31 July 1969 RCS CSFOR-65

THRU: Commanding Officer
79th Engineer Group (Const)
ATTN: EGE-3
APO 96491

Commanding General
20th Engineer Brigade
ATTN: AVBI-OS
APO 96491

Commanding General
US Army Vietnam
ATTN: AVRGC-CST
APO 96375

TO: Commander-in-Chief
US Army Pacific
ATTN: GPOP-DT
APO 96558

FOR OT UT
693278
Inclosure

SECTION: I. OPERATIONS: SIGNIFICANT ACTIVITIES:

a. Command: LTC George N Andrews continued as Battalion Commander.

b. Personnel, Administration, Morale, and Discipline:

(1) At the end of the reporting period the strength of the battalion, including attached units, was 100% of that authorized. The monthly strength figures for the quarter are shown below.

	STRENGTH	OFF	WO	EM	TOTAL
31 May 1969	AUTH	42	4	949	995
	ASGD	39	4	929	972
30 June 1969	AUTH	42	4	949	995
	ASGD	39	4	933	969
31 July 1969	AUTH	42	4	949	995
	ASGD	40	4	939	983

(2) Shortages by MOS in the Battalion this reporting period are indicated in the following charts:

PMOS	AUTH	ASGD(MAY)	ASGD(JUN)	ASGD(JUL)
12B40	88	53	51	52
12Z50	7	8	7	5
31G40	5	2	3	3
62N50	1	0	0	0

(3) The following charts list losses and gains during the quarter:

LOSSES	OFF	WO	EM	AGG
CONUS Rotation	12	2	164	178
Infusion	2	0	0	2
Miscellaneous	0	1	48	49
TOTAL	14	3	212	229

GAINS	OFF	WO	EM	AGG
CONUS Replacements	5	2	146	153
Infusion	2	0	0	2
In-country Rsgs	2	0	20	22
TOTAL	9	2	166	177

(4) Thirty-three personnel extended their foreign service tours:

OFF	WO	EM	TOTAL
0	0	33	33

(5) The following awards were presented to 31st Engineer Battalion personnel:

MEDALS	OFF	WO	EM	TOTAL
Bronze Star	12	1	7	20
Army Commendation	3	0	16	19
Purple Heart	0	0	8	8

(6) The following enlisted promotions were made to the grade indicated:

	E4	E5	E6	E7	E8	E9	TOTAL
May	40	22	3	0	0	0	65
June	18	18	1	1	1	0	39
July	137	47	2	0	0	0	186

(7) Disciplinary Cases:

	ART 15	SCM	SPCM	TOTAL
May	8	0	1	9
June	21	0	1	22
July	2	0	1	3

(8) Reenlistment during this period was:

	MAY	JUN	JUL
First Term	1	7	3
Career	1	0	0

(9) In the morale area the allocation for Rest and Recuperation Leave receiv. and filled by personnel of the battalion are shown below:

LOCATION	MAY	JUN	JUL	TOTAL
Australia	12	8	14	34
Bangkok	7	12	15	34
Hawaii	14	17	17	48
Manila	1	1	1	3
Taipai	7	6	7	20
Kuala Lumpur	0	CANCEL***		0
Singapore	4	0	2	6
Tokyo	1	1	3	5
Hong Kong	6	5	6	17
Penang	0	0	0	0
Sub-total	52	50	65	167
In-country	3	4	4	11
TOTAL	55	54	69	178

c. Intelligence and Counterintelligence:

(1) All intelligence data is received from G2 1st Cav Div (AM) and IIFFV intelligence summaries.

(2) During the last reporting period the S2 section's main activities were minesweeping LTL17 from Phuoc Vinh to the Song Be Bridge. The S2 section also conducted recons for suitable sources of laterite for roads and airfields within III CTZ and provided security for numerous 31st Engr Bn convoys between Phuoc Vinh and Dong Xoai.

d. Plans, Operations, and Training:

(1) Operational Support: During the reporting period 90% of the total battalion effort was devoted to operational support missions. Approximately 75% of the total battalion effort was expended in support of the 1st Cav Div (AM). There were three basic types of Operational Support Missions:

(a) Direct support of combat operations.

(b) Deliberate construction to support future operations.

(c) Troop, equipment and material support to MACV and IIFFV for construction and maintenance of existing roads, airfields, fire support bases, and MACV adviso housing.

(2) Lines of Communication (LOC); Deliberate road restoration and emergency road repair were conducted. Approximately 1% of the total battalion effort was expended on LOC work during the reporting period.

(3) Base Construction: The battalion effort expended on base construction increased to 7%. This was due to increased emphasis on MACV projects and 1st Air Cav Div base camp requirements at Phuoc Vinh.

(4) Design and Construction Engineering: The design requirements remained at approximately the same level as last quarter. Due to the emphasis placed on quality control, designs, and site plans are required for all projects.

(5) Training:

(a) Special classes are being taught within the battalion from time to time to improve proficiency in certain areas. These classes include: Anti-sapper Training, Radio-telephone Procedures, and Rigging of Airmobile Equipment and Supplies for Movement by Rotary Wing Aircraft.

(b) Training is also conducted by 79th Engr Gp for the 31st Engr Bn. This training includes: PLL, TARES, Design, Critical Path Method, and various reporting procedures required by Group.

(c) All replacements for the 31st Engr Bn are receiving 3 days of training at the 1st Air Cav Div Training Center located in Bien Hoa.

e. Logistics and Maintenance:

(1) Maintenance: The average deadline rate for the battalion during the quarter has been 11.5 overall and 16.9 on critical items, as shown below:

	OVERALL	CRITICAL
May	10.8%	16.4%
June	13.9%	21.4%
July	9.8%	12.9%

(2) Supply: Supply problems were minimal during the reporting period with the exception of a critical shortage of 1x, 2x, and 4x lumber and plywood. Major construction items issued by type projects are listed below:

	BASE	LOC	MACV	NEAR	OP SPT
Lumber, BF	7861	380	58893	80034	3063
Corr Stl, SH	237	-	730	4505	230
Wire, RL	-	-	-	1730	12
Screen, RL	29	-	15	17	4
Plywood, SH	-	4	27	2	61
Nails, LB	300	25	1362	5250	2245
Cement, BG	385	712	10	1270	34
Culvert, PC	195	319	-	929	-

f. Force Development: During this reporting period, the battalion experienced an exceptional amount of movement. On 18 May, D Co moved from Long Binh to Phuoc Vinh and began construction of their contonement area. Project work within the battalion also necessitated a great deal of movement. A Co moved the 2nd Platoon to Dong Xoai on 24 Jun for airfield maintenance and the 3rd Platoon on 27 Jun to Duc Phong for the MACV Housing project. Both platoons still remain on site at the end of this reporting period. B Company remained at Quan Loi for completion of the MACV Housing at Hon Quan, a perimeter observation tower, 5th SFG TOC, and continue work on the ASP. On 10 May 2nd Platoon of B Co was moved from Quan Loi to Song Be for construction of three 175mm gun pads. This was finished on 23 Jun and the 2nd Platoon returned to Quan Loi. The 3rd Platoon remained at Song Be during the entire reporting period for construction of MACV Housing. The 2nd Platoon of C Co completed construction of MACV Housing at Bo Duc and was extracted on 22 May. The 3rd Platoon of C Co moved to Tra Cu on 10 May for construction of artillery pads, a slingout pad, and roadwork. At the end of the quarter 3rd Platoon was preparing to return to Phuoc Vinh. D Company extracted the 3rd Platoon from Duc Hue on 27 Jun upon completion of the Type II C7A airfield. D Co also provided airfield maintenance at Katum from 8 May through 31 Jul, at Duc Phong from 17 May through 30 Jun, and at Tonle Cham from 28 Jun to the present. The 557th LE Co sent its 1st Platoon to Lai Khe during the period 1 May through 31 May for construction of a drainage system for the base camp. The 2nd Platoon remained at Quan Loi attached to B Co for work on the ASP and QL13 south of An Loc. The 1st Platoon was later sent to Cu Chi during the period 10 Jun through 20 Jun for construction of a portion of QL22. From 20 Jun through 26 Jun the 1st Platoon upgraded the perimeter road at Dau Tieng base camp. On 26 Jun they returned to Phuoc Vinh.

g. Command Management: With reference to Force Development, it is apparent that the battalion's requirements for both fixed wing and rotary wing aircraft have increased several fold due to the dispersion of field elements. The battalion requires more rotary wing aircraft for Command and Control and repair parts resupply on a regularly scheduled basis. The fixed wing aircraft support received by the battalion consisted of C130, C123, and C7A aircraft. The number of flights received was sufficient; however, the eratic arrival times of aircraft made it extremely difficult to plan aircraft loads accordingly.

h. Civil Affairs: Operational commitments of the battalion remained high this quarter; however, the battalion was able to continue its program of MEDCAPS in the villages surrounding Phuoc Vinh. The MEDCAPS are held approximately once every week with an average of 30 patients treated each time. Each MEDCAP employs the Bn Surgeon, 2-3 medics, and 4 EM for security.

i. Civilian Personnel Affairs: The continued use of local nationals for prefab operations and KP has continued to be successful and without incident.

j. Headquarters and Headquarters Company:

(1) Command: 1LT James C Hamm continued as Company Commander.

(2) Headquarters Company has continued to support the line companies. All of the Heavy Equipment section's effort has been in support of the line companies.

(3) Headquarters Company continued working in the company area by improving the drainage. An additional BOQ was constructed and new EM wash facilities were installed. The S4 section improved their storage facilities with more overhead protection and increased security structures.

k. Company A, 31st Engineer Battalion:

(1) Command: 1LT Terry Simmons continued as Company Commander.

(2) Operations: During this quarter A Co constructed in Phuoc Vinh a radar tower and 4 perimeter bunkers, 2 CH47 maintenance revetments, 26 UH1 revetments, and the DivArty TOC. A Co also cleared 106,200 SF of minefield and detonated in place 53 pieces of ordnance. At the time of this report, A Co is in the process of constructing MACV Housing at Duc Phong, upgrading the airstrip at Dong Xoai, & constructing an air control tower and a radio research TOC at Phuoc Vinh.

l. Company B, 31st Engineer Battalion:

(1) Command: 1LT Donald McAbery replaced Cpt Caldwell as Company Commander on 9 Jun 69. 1LT Andrew Mueller replaced 1LT McAbery as Company Commander on 13 July 1969.

(2) Operations: During this period B Co's work efforts were at two different locations; the 3rd platoon stationed at Son Be and the rest of the company at Quan Loi. For this reporting period the company continued to do base development type work. The platoon at Quan Loi finished the MACV housing project at Hon Quan, the 60' observation tower for the Quan Loi perimeter, a TOC for the 5th SFG, and are nearing completion on the Quan Loi ASP, perimeter clearing, fields of fire, & Perimeter bunkers. The platoons at Quan Loi were also called upon for emergency work on Highway QL13. The 2nd platoon, 557th LE attached to B Company at Quan Loi also provided support in maintaining QL303, the Quan Loi airfield, and the earthwork for the Quan Loi ASP. They are presently working on two maintenance hardstands at Quan Loi. The 3rd platoon at Song Be finished construction of Phase I, MACV Housing as well as construction of three 155mm gun pads, and MACV Housing at Phuoc Binh. The 3rd Platoon is presently working on Phase II, MACV Housing at Song Be.

m. Company C, 31st Engineer Battalion:

(1) Command: Cpt Karl R Woodruff continued as Company Commander.

(2) Operations: During the reporting period Company C was involved in various widely scattered projects including MACV Housing at Bo Duc, artillery gun pads at Tra Cu, a Tactical Operations Center for 31st Engr Bn, MER for 1st ACD units, Helicopter Refuel/Rearm facilities, upgrade of Song Be Road, and Phuoc Vinh airfield maintenance and repair.

n. Company D, 31st Engineer Battalion:

(1) Command: Cpt Christos A Dovas replaced Cpt Lynn Page as Company Commander on 8 June 1969.

(2) Operations: During this reporting period D Co continued its mission of maintenance of forward airfields by completing upgrading operations at Katum and Duc Phong, and are presently at work at Tonle Cham. The 3rd platoon of D Co constructed a Type II C7A airfield at Duc Hue. Other projects included construction of D Co cantonment, MER for 1st ACD, technical assistance for SEA Hut construction at Phuoc Vinh, and testing of various asphaltic treatments for use on forward airfields D Co also provided equipment support at FS Bases Diamond, Joy, and Hobo Wood as well as 1st Inf Div defensive positions (XT6050).

o. 557th Light Equipment Company:

(1) Command: Cpt James P Reynolds continued as Company Commander.

(2) Operations: During this quarter the 557th LE Co prepared a drainage system for the Lai Khe base camp, constructed the Phuoc Vinh LSP, the Quan Loi LSP, Co D motor pool area, a maintenance pad for the 11th Avn Gp as well as helicopter revetment pads and roadwork for the 227th at Phuoc Vinh. Road improvements consisted of upgrading the perimeter road at Dau Tieng base camp and repairing and upgrading QL22 and QL13 south of An Loc.

SECTION II. LESSONS LEARNED: COMMANDERS OBSERVATION, EVALUATION, AND RECOMMENDATIONS

a. Personnel: None

b. Intelligence: None

c. Operations: None

d. Training: None

e. Engineering:

(1) Soil Cement Stablization

(a) OBSERVATION: Failure of soil-cement patches.

(b) EVALUATION: Use of soil cement for pothole repairs on forward airfields resulted in several instances of failure. The methods of placement used were inplace mixing and hand batching.

(c) RECOMMENDATIONS: Excellent results were obtained by use of a 16s mixer towed behind a 3/4ton truck. The laterite and cement were dry mixed in the 16s and towed from pothole to pothole. This method gave a uniform and well controlled mix as well as increased mobility. A crew with hand compactors and a water distributor followed the 16s to complete the patchwork.

(2) Dust Palliatives:

(a) OBSERVATION: Slow curing MC70.

(b) EVALUATION: MC70 applied as a final surface treatment at Duc Hue airfield would, for all practical purposes, not cure. The airstrip was constructed of a clay base course with a laterite cap. Sand had to be rolled into the MC70 several times to dry it out.

(c) RECOMMENDATIONS: If an asphaltic cutback is deemed necessary, an RC grade should be used in lieu of an MC grade due to its poor penetration into laterite.

(3) M8A1 Matting Removal:

(a) OBSERVATION: M8A1 matting is not easely removed after time in service, during when much welding was perfromed for maintenance.

(b) EVALUATION: Once the locking tabs have bent down and the matting secured, it is very time consuming to attempt a piece by piece removal, particularly after repair welding has been done.

(c) RECOMMENDATIONS: Time is gained by cutting the old matting with torches in approximately 30x40 sections, rolling it with a bucket loader and loading it onto a lowbed trailer with a crane. These rolls can be transported to other sites where they can be unrolled and reused as storage pads, maintenance hardstands, etc.

(4) Field Expedient - "O" rings for International 3414 backhoe.

(a) OBSERVATIONS: Non-availability of "O" rings for I3414 backhoe.

(b) EVALUATION: Under field conditions the "O" rings in the I3414 backhoe do not stand up under extended periods of operation.

(c) RECOMMENDATIONS: In order to keep a job moving while awaiting replacement "O" rings, ordinary rubber bands or rings cut from old inner tubes can be used as a field expedient.

(5) Field Expedient - Tubes for Grader Tires

(a) OBSERVATION: Non-availability of inner tubes for Cat 12 grader.

(b) EVALUATION: Airfield maintenance is brought to a virtual standstill due to a grader deadlined.

(c) RECOMMENDATIONS: A 5ton inner tube can be used in lieu of the grader tire tube as a temporary means of keeping a grader operational.

f. Logistics: None

g. Organization: None

h. Other: Communications:

(1) OBSERVATION: Field failures of the Plate Trimmer Capacitor 2A1A1C22 in Amplifier AM-3349/GRC-106 have been attributed many times to improper tuning by equipment operators.

(2) EVALUATION: To prevent excessive Voltage Standing Wave Ratio (VSWR) during tuning procedures of the AN/GRC-106 radio set, the antenna loading and antenna tuning controls must be preset within the prescribed operating limits. Excessive VSWR is evidenced by the tuning meters being driven off scale. If the tuning and loading is not brought into balance within two minutes the plate trimmer capacitor may permanently fail.

(3) RECOMMENDATIONS: The operator should immediately tune the ANT LOAD and ANT TUNE controls after setting HV RESET switch at TUNE and before taking readings with TEST METER. The operator, while watching both associated tuning meters, should practice tuning the ANT TUNE and ANT LOAD at the same time - left hand on ANT TUNE and right hand on ANT LOAD knob. This will increase his proficiency and shorten the tuning time.

GEORGE N ANDREWS
LTC, CE
Commanding

EGE-3 (8 Aug 69) 1st Ind 22 August 1969
SUBJECT: Operational Report of the 31st Engineer Battalion (Combat) for the Period 1 May 1969 through 31 July 1969

DA, HEADQUARTERS, 79TH ENGINEER GROUP, APO 96491

TO: Commanding General, 20th Engineer Brigade, ATTN: AVBI-OS, APO 96491

1. The operational report of the 31st Engineer Battalion has been reviewed and additional comments are as follows:

Reference Section II, e, 2b, page 7: The MC70 application on the Duc Hue Airfield was placed too thick to allow for normal curing. The slow curing was not a result of the type of cut back used.

2. This report is considered to be an adequate summary of the battalion's operational experience during the report period. The report is submitted in accordance with USARV Reg 525-15, dated 13 April 1968.

FOR THE COMMANDER:

SHIGEYOSHI MORITA
CPT, AGC
Adjutant

AVHGC-DST (8 Aug 69) 3d Ind
SUBJECT: Operational Report-Lessons Learned of HQ, 31st Engineer Battalion (C)(A) for the Period Ending 31 July 1969 RCS CSFOR-65

HEADQUARTERS, UNITED STATES ARMY, VIETNAM, APO San Francisco 96375 12 SEP 1969

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT
APO 96558

1. This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 31 July 1969 from Headquarters, 31st Engineer Battalion (C)(A).

2. Comments follow:

a. Reference item concerning "M8A1 Matting Removal", section II, page 7, paragraph e(3); concur. This method appears satisfactory when it is necessary to remove large areas of matting. When areas requiring repair are relatively small, the method described in DA Pam 525-3-1, page 44, is applicable.

b. Reference item concerning "Field Expedient - "O" rings for International 3414 backhoe", section II, page 7, paragraph e(4); concur. Ordinary rubber bands or rings cut from old inner tubes can be used as field expedient replacements for "O" rings to keep a job moving. If field expedient repair parts are used, they should be installed by an appropriate level of maintenance and should be replaced as soon as the authorized repair part becomes available. Rubber bands and inner tube rubber will not seal as good as the authorized "O" rings and will deteriorate rapidly because the rubber is not treated to withstand the chemical deterioration effect of the hydraulic oil. The use of any field expedient should be authorized by a unit commander only after the replacement part or item has been requested. A continuing requirement for field expedient repair parts of this nature should be investigated because PLL and ASL stockage levels should be sufficient to support requirements.

c. Reference item concerning "Field Expedient-Tubes for Grader Tires", section II, page 8, paragraph e(5); concur. The most acceptable substitute is the tube from an M-39 bridge truck.

d. Reference item concerning "Communications", section II, page 8, paragraph h; concur. The unit is advised that operator training is the critical factor. If all currently approved procedures, such as proper presets, were followed, the problem would not exist.

FOR THE COMMANDER:

B. A. GOODWIN
CPT, AGC
Assistant Adjutant General

Cy furn:
HQ, 31st Engr Bn
HQ, 20th Engr Bde

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AVBI-CS (8 Aug 69) 2nd Ind
SUBJECT: Operational Report of the 31st Engineer Battalion (Combat) for the Period Ending 31 July 1969, RCS CSFOR-65(R1)

DA, HEADQUARTERS, 20TH ENGINEER BRIGADE, APO 96491 [illegible] 1969

TO: Commanding General, United States Army Vietnam,
ATTN: AVHGC-DST, APO 96375

1. Submitted in accordance with USARV Regulation 525-15, dated 13 April 1968.

2. Subject report for the 31st Engineer Battalion (Combat) has been reviewed and is considered adequate.

FOR THE COMMANDER:

[signature]
R. S. KENNEDY
Major, AGC
Adjutant

Copies Furnished:
CO, 79th Engr Gp
CO, 31st Engr Bn

GPOP-DT (8 Aug 69) 4th Ind
SUBJECT: Operational Report of HQ, 31st Engineer Battalion (C)(A) for Period Ending 31 July 1969, RCS CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558 24 SEP 69

TO: Assistant Chief of Staff for Force Development, Department of the Army, Washington, D. C. 20310

This headquarters concurs in subject report as endorsed.

FOR THE COMMANDER IN CHIEF:

D. A. TUCKER
CPT. AGC
ASST AG

UNCLASSIFIED
Security Classification

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Experiences of unit engaged in counterinsurgency operations, 1 May 69 to 31 July 69.

5. AUTHOR(S) (First name, middle initial, last name)

CO, 31st Engineer Battalion

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